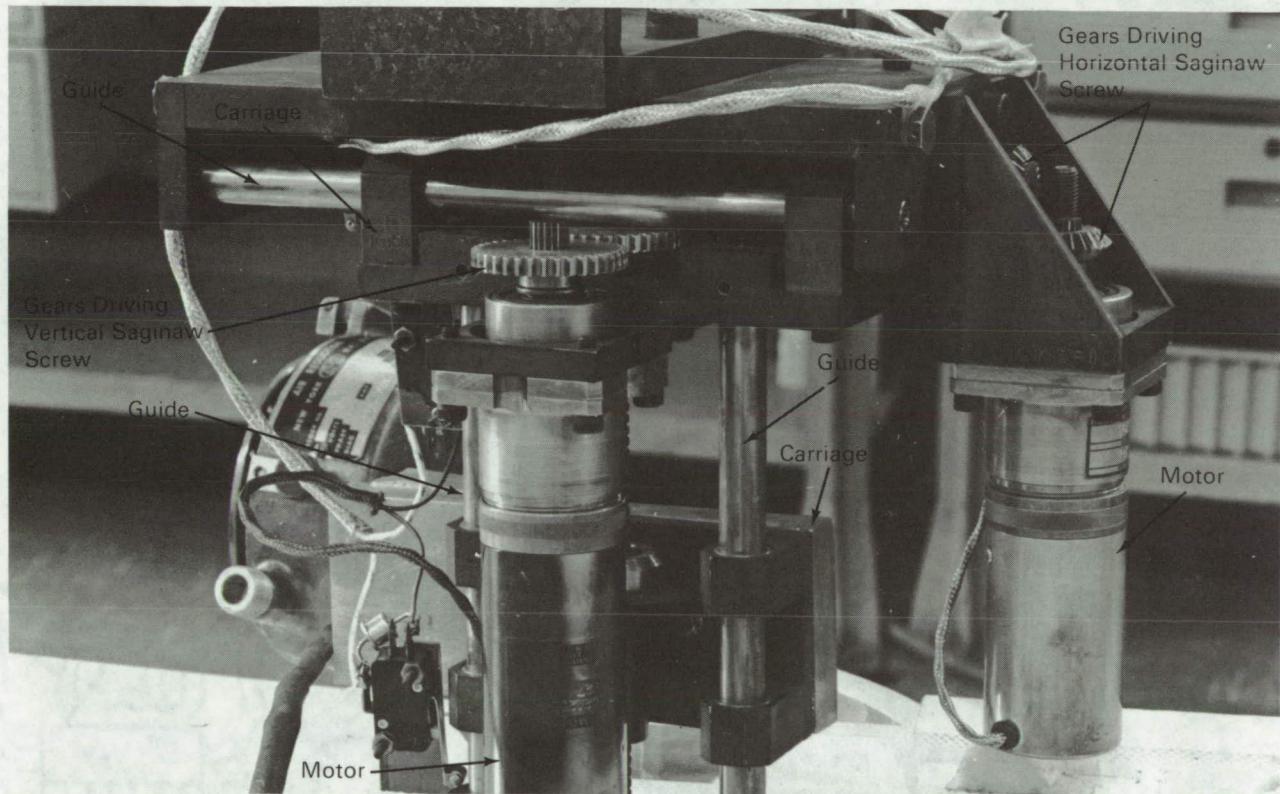


NASA TECH BRIEF



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Filler-Wire Positioner for Electron Beam Welding



The miniaturized filler-wire positioner is a time-saving, economical device which can be installed in an electron beam vacuum chamber for use with wire feed applications requiring filler wire. Horizontal and vertical control of the positioner can be maintained from a console while the chamber is under vacuum. This prototype (see fig.) offers additional advantages over earlier models in that the method of motor drive positioning of the wire feeder carriage is believed to

be new; the small size of the entire unit offers additional vacuum chamber area; and the beam and wire feeder are independent of each other, enabling the wire to be removed from the beam area while still in a vacuum condition. Since prior devices were limited to a vertical plane only, more positive positioning of welding filler wire is achieved. This new unit may be installed in any hard vacuum type electron beam welding machine.

(continued overleaf)

The filler wire positioner contains two small 27 V dc motors which operate the carriage in both horizontal and vertical directions through gearing, low-friction type bearings, and Saginaw screws to obtain smooth, precise movement. A full wave rectified dc power supply furnishes the required variable voltage to run the motors from an operator's control panel. All electrical connectors are plug-in and the entire unit may be removed from the chamber when filler wire is not required in welding.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code BM7
Houston, Texas 77058
Reference: TSP70-10604

Patent status:

No patent action is contemplated by NASA.

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